



STAN-EVAL NOTES
CIVIL AIR PATROL VIRGINIA WING
UNITED STATES AIR FORCE AUXILIARY
7401 Airfield Drive
Richmond, Virginia 23237-2250
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Glider Program Update: We had our first glider operations at DAN on 7 April and were able to get another tow pilot re qualified as well as getting the rust off of our operations. This operation was seniors only and was mostly focused on re learning how to do glider ops and getting people re-qualified. Next time we'll be ready for cadets. We plan to relocate the glider ops to LKU but not until they have completed their runway improvements. Till then we will operate out of DAN. We are still using a C172 (N99559) as our tow plane but hope to get the C182 on line for the next operation. Squadron Commanders should start planning now for glider Orientation Rides for their cadets. Cadets are why we do glider operations. Contact Capt Pat Riley or Capt Larry Randall If you are interested in participating in glider operations. Our next scheduled glider day will be 6 May at KDAN WX permitting.

Useful Glider Operations Resources: If you think you might be interested in participating in glider operations there are several resources available to you. We have posted a VAWG Glider Operations Guide (on the VAWG Web page in the operations documents folder) which provides a good overview of glider operations in VAWG. Two good courses to take are the Wing Runner course and the Tow Pilot course. These are available on the NHQ Stan Eval page ([Click here](#)). Everyone should take the Wing Runner course as there is a lot of good practical information in the course. Even if you are not a tow pilot, the Tow Pilot course provides useful information for anyone participating in glider ops. The website for the Soaring Society of America (SSA) has some excellent reference material ([Click here for SSA](#)).

I wanna be a tow pilot: If you would like to be a tow pilot, take a deep breath and try to think more clearly. I'm not sure why anyone would want to be a tow pilot but many have asked to get qualified. Being a tow pilot is not a pleasant occupation. First, towing a glider is one of our more hazardous operations and requires constant vigilance to remain safe. To tow properly, you have to keep your speed low (about 65 knots) which means you are always close to a stall. You are towing a 1500 lb weight in the back that can yank your tail up and down and cause you to lose control. An improperly flown glider over which you have no control can quite literally kill you. This is especially critical on takeoff where the glider (which is always airborne first) can cause you to nose into the ground if the glider pilot does not remain a few feet above the runway. Summer days are always hot and humid and the tows are always in the thermals. This means that in addition to the normal maneuvers a glider may make which creates control challenges for the tow plane; you are also jostled more than usual by the thermals due to the glider pull on the tail. Because of the slow speed, high angle of attack, and that 1500 lb weight behind you, constant right rudder is required. By the end of the day your right leg is shot. It's a hot and thankless job. The four characteristics of a good tow pilot are low IQ, high piloting skill, oversized right leg, and a high tolerance for pain. Three out of four won't do it.

Towing operations are governed by CFAR 91.309. To become a qualified tow pilot you must first comply with the FAA regulations spelled out in CFAR 61.69 which states:

- (a) No person may act as pilot in command for towing a glider or unpowered ultralight vehicle unless that person—
- (1) Holds a private, commercial or airline transport pilot certificate with a category rating for powered aircraft;

- (2) Has logged at least 100 hours of pilot-in-command time in the aircraft category, class and type, if required, that the pilot is using to tow a glider or unpowered ultralight vehicle;
- (3) Has a logbook endorsement from an authorized instructor who certifies that the person has received ground and flight training in gliders or unpowered ultralight vehicles and is proficient in—
- (i) The techniques and procedures essential to the safe towing of gliders or unpowered ultralight vehicles, including airspeed limitations;
 - (ii) Emergency procedures;
 - (iii) Signals used; and
 - (iv) Maximum angles of bank.
- (4) Except as provided in paragraph (b) of this section, has logged at least three flights as the sole manipulator of the controls of an aircraft while towing a glider or unpowered ultralight vehicle, or has simulated towing flight procedures in an aircraft while accompanied by a pilot who meets the requirements of paragraphs (c) and (d) of this section.
- (5) Except as provided in paragraph (b) of this section, has received a logbook endorsement from the pilot, described in paragraph (a)(4) of this section, certifying that the person has accomplished at least 3 flights in an aircraft while towing a glider or unpowered ultralight vehicle, or while simulating towing flight procedures; and
- (6) Within 24 calendar months before the flight has—
- (i) Made at least three actual or simulated tows of a glider or unpowered ultralight vehicle while accompanied by a qualified pilot who meets the requirements of this section; or
 - (ii) Made at least three flights as pilot in command of a glider or unpowered ultralight vehicle towed by an aircraft.
- (b) Any person who, before May 17, 1967, has made and logged 10 or more flights as pilot in command of an aircraft towing a glider or unpowered ultralight vehicle in accordance with a certificate of waiver need not comply with paragraphs (a)(4) and (a)(5) of this section.
- (c) The pilot, described in paragraph (a)(4) of this section, who endorses the logbook of a person seeking towing privileges must have—
- (1) Met the requirements of this section prior to endorsing the logbook of the person seeking towing privileges; and
 - (2) Logged at least 10 flights as pilot in command of an aircraft while towing a glider or unpowered ultralight vehicle.
- (d) If the pilot described in paragraph (a)(4) of this section holds only a private pilot certificate, then that pilot must have—
- (1) Logged at least 100 hours of pilot-in-command time in airplanes, or 200 hours of pilot-in-command time in a combination of powered and other-than-powered aircraft; and

(2) Performed and logged at least three flights within the 12 calendar months preceding the month that pilot accompanies or endorses the logbook of a person seeking towing privileges—

(i) In an aircraft while towing a glider or unpowered ultralight vehicle accompanied by another pilot who meets the requirements of this section; or

(ii) As pilot in command of a glider or unpowered ultralight vehicle being towed by another aircraft.

For most pilots in VAWG this can be summarized as:

- You must have 100 hours PIC time (don't worry, we would not want any low time pilot towing gliders)
- You must get instruction in a glider by a qualified glider pilot that endorses your logbook (e.g. you must have a good feeling for what it's like in the glider)
- You must receive instruction on towing gliders by actual tows or simulated tows
- And you must have three simulated or actual glider tows to remain current every year.

Once you do this you are qualified in the eyes of the FAA but not CAP. CAPR 60-1 has additional requirements including 10 actual (not simulated) tows to remain qualified. We also recommend taking the SSA tow pilot course on line accessible from the NHQ Stan Eval page. In VAWG, fulfilling the requirements is not an automatic approval for towing. You also need to be "blessed" by the VAWG Stan Eval Officer.

VOR Check Issues: Last month we had several articles on the importance of doing regular VOR checks. This was an issue for our recent CI. Although many of our aircraft had regularly filled out VOR checks, the auditors noted that several of our aircraft had not had a VOR check for over six months!!! This is unacceptable. VOR checks should be done every 30 days. Although not required for airworthiness, it's a sign that our aircrews are being sloppy and unprofessional. Get them done!!!

Frederick Maryland Airport (KFDK) begins tower operations: Of interest to many VAWG pilots will be the change of KFDK from a non towered operation to a tower controlled field on 1 May. The tower frequency will be 132.400; ground frequency will be 121.975, and the ATIS AWOS 124.875. The operating hours are scheduled to be 7:00 a.m. to 9 p.m. 7 days a week. After 9 p.m. the airfield reverts back to CTAF operations on frequency 132.400 (not 122.725). All pilot controlled lighting will operate on 132.400 after the tower closes for the night. For safety purposes, the FBO will continue to monitor the 122.725 frequency for the next (6) months to alert any traffic not operating on the new 132.400 frequency. Note that this new information will not be in our G1000 aircraft until the next update! Our GX aircraft info on KFDK may be out of date for quite a while. Call flight service if you need help.

The FAA hosted an informative seminar 24 April for local pilots which you can view on AOPA online. KFDK is now in Class D airspace when the tower is in operation so give them a call at least 10 miles out. The southern end of the Class D is only 2 miles from the SFRA so be sure to let the tower know before takeoff if you intend to fly in the SFRA to give them time to coordinate with ATC. You will still need to have filed an SFRA flight plan before departing. Lastly, when P40 is expanded, it encroaches on the KFDK Class D airspace. Even if you are in contact with the tower you may not enter P40 unless you want a tax payer funded escort by F16's back to KFDK. The tower at KFDK has no radar or even a radar repeater so they cannot tell if you are getting near P40 other than your position reports. You can download some helpful information from the Air Safety Foundation at this site ([Frederick Municipal Airport Tower and Class D Airspace](#)).

Required Instruments: CFAR Part 91 is very specific about what instruments are required for day VFR, night VFR, and IFR flight. Check pilots should make sure that our pilot population understands what is required and what is not required, and how to deal with inoperative avionics. These requirements are spelled out in CFAR 91.205.

For VFR flight during the day, the following instruments and equipment are required:

- (1) Airspeed indicator.
- (2) Altimeter.
- (3) Magnetic direction indicator.
- (4) Tachometer for each engine.
- (5) Oil pressure gauge for each engine using pressure system.
- (6) Temperature gauge for each liquid-cooled engine.
- (7) Oil temperature gauge for each air-cooled engine.
- (8) Manifold pressure gauge for each altitude engine.
- (9) Fuel gauge indicating the quantity of fuel in each tank.
- (10) Landing gear position indicator, if the aircraft has a retractable landing gear.
- (11) For small civil airplanes certificated after March 11, 1996, in accordance with part 23 of this chapter, an approved aviation red or aviation white anticollision light system. In the event of failure of any light of the anticollision light system, operation of the aircraft may continue to a location where repairs or replacement can be made.
- (12) If the aircraft is operated for hire over water and beyond power-off gliding distance from shore, approved flotation gear readily available to each occupant and, unless the aircraft is operating under part 121 of this subchapter, at least one pyrotechnic signaling device. As used in this section, "shore" means that area of the land adjacent to the water which is above the high water mark and excludes land areas which are intermittently under water.
- (13) An approved safety belt with an approved metal-to-metal latching device for each occupant 2 years of age or older.
- (14) For small civil airplanes manufactured after July 18, 1978, an approved shoulder harness for each front seat. The shoulder harness must be designed to protect the occupant from serious head injury when the occupant experiences the ultimate inertia forces specified in §23.561(b)(2) of this chapter. Each shoulder harness installed at a flight crewmember station must permit the crewmember, when seated and with the safety belt and shoulder harness fastened, to perform all functions necessary for flight operations. For purposes of this paragraph—
 - (i) The date of manufacture of an airplane is the date the inspection acceptance records reflect that the airplane is complete and meets the FAA-approved type design data; and

(ii) A front seat is a seat located at a flight crewmember station or any seat located alongside such a seat.

(15) An emergency locator transmitter, if required by §91.207.

(16) For normal, utility, and acrobatic category airplanes with a seating configuration, excluding pilot seats, of 9 or less, manufactured after December 12, 1986, a shoulder harness for—

(i) Each front seat that meets the requirements of §23.785 (g) and (h) of this chapter in effect on December 12, 1985;

(ii) Each additional seat that meets the requirements of §23.785(g) of this chapter in effect on December 12, 1985.

(17) For rotorcraft manufactured after September 16, 1992, a shoulder harness for each seat that meets the requirements of §27.2 or §29.2 of this chapter in effect on September 16, 1991.

That's quite a list but a rule of thumb is if it's in our Piper Cub, then it's probably required for VFR day flight. So things like airspeed indicators, compasses, fuel gauges and so forth are required whereas an attitude indicator is not. How about VFR night? You need all the day VFR equipment plus:

(2) Approved position lights.

(3) An approved aviation red or aviation white anticollision light system on all U.S.-registered civil aircraft. Anticollision light systems initially installed after August 11, 1971, on aircraft for which a type certificate was issued or applied for before August 11, 1971, must at least meet the anticollision light standards of part 23, 25, 27, or 29 of this chapter, as applicable, that were in effect on August 10, 1971, except that the color may be either aviation red or aviation white. In the event of failure of any light of the anticollision light system, operations with the aircraft may be continued to a stop where repairs or replacement can be made.

(4) If the aircraft is operated for hire, one electric landing light.

(5) An adequate source of electrical energy for all installed electrical and radio equipment.

(6) One spare set of fuses, or three spare fuses of each kind required, that are accessible to the pilot in flight.

And for IFR flight you need all the above plus:

(2) Two-way radio communication and navigation equipment suitable for the route to be flown.

(3) Gyroscopic rate-of-turn indicator, except on the following aircraft:

(i) Airplanes with a third attitude instrument system usable through flight attitudes of 360 degrees of pitch and roll and installed in accordance with the instrument requirements prescribed in §121.305(j) of this chapter; and

(ii) Rotorcraft with a third attitude instrument system usable through flight attitudes of ± 80 degrees of pitch and ± 120 degrees of roll and installed in accordance with §29.1303(g) of this chapter.

- (4) Slip-skid indicator.
- (5) Sensitive altimeter adjustable for barometric pressure.
- (6) A clock displaying hours, minutes, and seconds with a sweep-second pointer or digital presentation.
- (7) Generator or alternator of adequate capacity.
- (8) Gyroscopic pitch and bank indicator (artificial horizon).
- (9) Gyroscopic direction indicator (directional gyro or equivalent).

Note that a VOR or GPS is not necessarily required, only “navigation equipment suitable for the route to be flown”. Theoretically you could fly IFR with just a compass (don’t even think of doing this).

So we are good to go, right? No, not at all. Although these are the minimums set by the CFARS, you must also comply with the manufacturers’ recommendations. A complete procedure for deciding if you have all the right instruments and equipment for flight is contained in CFAR 91.213. Briefly, it says (I’ve summarized for our CAP operations where we don’t have a Minimum Equipment List):

- Ensure you have all the instruments and equipment required by CFAR 91.205 (no exceptions)
- Any inop equipment must be either placarded or removed by an A&P with a logbook entry
- Ensure you have all the instruments and equipment required by the POH for the intended operation (for us, that’s the list in the POH sometimes referred to as the KOEL or Kinds of Operations Equipment List)
- The PIC must verify that the aircraft is safe to fly for the intended operation (for example, even though an attitude indicator is not required for VFR night flight, most pilots will not fly with this inoperative – a good practice).

Once you do that, you really are good to go.

Tire Inflation: One of the most overlooked items on a preflight is tire pressure. An underinflated tire will be damaged if the wheel rolls any distance, takeoff distances become longer, and braking is affected.

Underinflation is bad! Overinflation can cause tread wear but we usually don’t have over inflated tires. It’s very difficult to detect an underinflated tire by just looking at it. In fact, a tire can be more than 30% underinflated and they will look identical to a properly inflated tire. By the time you can actually see underinflation, you are way beyond the critical inflation point and can cause severe damage to the tire as well as affect aircraft ground performance (takeoff distance, braking distance, turning, and so forth). A tire is underinflated when the pressure is 10% under the recommended value. So, if your mains should be at 46 psi but they are only at 40 psi, you are underinflated and there is no way to tell that without a tire pressure gauge. Every VAWG aircraft has an excellent tire pressure gauge so let’s use them. Note that all tire pressures assume a cold tire. You won’t be able to accurately measure tire pressure otherwise.

Improperly inflated tires are bad because:

- They are a safety hazard
- They will become damaged quickly and need to be replaced (read costs VAWG more money)

There is a wealth of information on tire maintenance and general facts concerning aircraft tires at the Goodyear web site ([Click here to go to the Goodyear site](#)). In addition to several videos on the home page, you can download a useful document that tells you more than you ever wanted to know about aircraft tires (go to the technical resources tab).

Check pilots and instructor pilots should make sure our pilots are aware of proper tire inflation; avoid riding the brakes on taxi, or stomping the brakes on landing.

Mountain Flying Clinic 14-15 April (Col Duke Stanton): This past weekend concluded a very successful Mountain Fury Clinic. Saturday included seven hours of classroom instruction on the art and science of successfully flying search and rescue missions in mountainous terrain. Classroom instruction was provided for ten VAWG members and one WV member and I would like to thank Major Steve Hertz and BGen. Vazquez who provided the instruction. On Sunday, twelve sorties were flown in the Blue Ridge Mountains providing valuable learning experiences for six VAWG pilots and providing them the opportunity to practice what they had learned in the classroom. My thanks to BGen. Vazquez, Major Jeff VanEtten, and Capt. Tom Gardiner who acted in the capacity of instructor pilots. I would also like to issue a special kudo to LtCol. Dave Kelly, USAFR, WV Wing Reserve Coordinator, MELR, Det. 2, CAP-USAF. LtCol. Kelly took this entire weekend to join with us as he desired to increase his knowledge on how the Civil Air Patrol trains and how we execute that training. Not only did he attend the entire day of classes on Saturday but he also flew with us for two sorties on Sunday. We appreciate his interest and welcome him back at anytime. Appreciation is also provided to the long day by Major Mark Myers, Lt. Rene Bergeron and Cadet L. Bergeron who manned the communications for the day. Last but not least, I appreciate the cooperation of the Wing E/S Officer, Major John Payne, who provided us the funding for this course and to the Group Commanders who were so cooperative in providing their assets so as we could accomplish this important training. Well done!!!

Instructor Pilot Clinic: We are well into the planning for the unfunded instructor pilot clinic at FCI on Saturday 23 June. This clinic is open to any active VAWG Instructor pilot, check pilot, or pilot examiner. If you are not currently any of these but want to be, you may attend the course space permitting. We are now accepting applications. Please send an email with your name and CAPID to steve.hertz@ngc.com if you are interested in attending.

Form 5 Clinic: We are also planning to host a funded Form 5 clinic in DAN on 7 July. We will have several check pilots and instructor pilots to help you get your next Form 5 done. More details will be forthcoming as the date gets closer.

Articles for the VAWG Stan Eval Newsletter: We are always looking for brief articles of interest to VAWG pilots to include in this newsletter. CAP has many very experienced pilots and aircrew who have useful techniques, experiences, and tips to share. Please send your contribution to steve.hertz@ngc.com. If your article is accepted, you will get a pro rata share of the VAWG Stan Eval Newsletter subscription fees.